

Substitute Specification

TITLE OF THE INVENTION

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10/10/2003
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[0001] Method and Device for Bending Elements, such as Panels, Metal Sheet, Plates or Suchlike

BACKGROUND OF THE INVENTION

5 [0002] The present invention concerns a method, and the relative device, for bending and shaping, also of the type with a possibly varying radius, at least partly plane elements of a deformable type, such as panels, metal sheet, plates or suchlike, made by means of a bending machine, in order to obtain a panel shaped according to a pre-established design or project.

10 [0003] Bending machines are known by means of which a plane element of deformable type, for example a metal sheet, is bent to obtain a shaped element according to a pre-established project. Conventional machines substantially comprise a supporting plane on which the sheet to be bent is arranged, a sheet-pressing element suitable to clamp on each occasion a segment of the sheet against the supporting plane, and a bending assembly that acts on a free portion of the sheet adjacent to the segment clamped by the aforesaid element.

15 [0004] The bending assembly normally comprises two opposite blades mounted on a blade-bearing element that is driven in one direction or the other according to whether the bend to be made is upwards or downwards.

20 [0005] Conventional machines are also equipped with a system to set the angle of bend that allows to set in advance a sequence of angles of bend to be made according to the project to be made.

25 [0006] One disadvantage of conventional bending machines is the lack of reliable control means that allow to verify that the angle of bend achieved coincides with the pre-set angle of bend. In fact it is known that, after it has been subjected to bending, a segment of sheet tends to return elastically back by a certain angle, and this causes a reduction in the real value of the angle of bend with respect to the angle set.

30 [0007] The elastic return, to be more exact, is a variable that depends on many parameters, for example the size and thickness of the sheet, the intrinsic elasticity, the mechanical resistance, the production lot, the value of the angle of bend, environmental conditions, and others.

[0008] To be able to correct the deviation of the actual value from the project value, at least the first sheet bent must therefore be removed from the machine, to measure the actual value of bending, and then returned to the machine to perform the bending. In the case of particular or